Geographical variation in the Sand Martin is predominately clinal (Vaurie 1959, Cramp 1988), with size becoming smaller and depth of ground colour paler towards the south, resulting in gradation and intermediate populations over a wide area between the northern, largest and darkest forms (nominate *riparia* and *ijimae*, occupying a wide zone in the Palearctic and Nearctic) and the southern, smallest and palest forms (*diluta, indica* and *shelleyi*, breeding in southern Asia and Egypt). Within this general pattern *eilata* stands out as the smallest and darkest form.

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IN BRIEF

ON THE PRESENCE OF THE BLUE-FOOTED BOOBY *SULA NEBOUXII* ALONG THE SOUTH COAST OF PERU

The Blue-footed Booby *Sula nebouxii* has a restricted range along the Pacific coast of tropical America, between Mexico and northern Peru, with an outlying population on the Galapagos Islands. It favours semi-arid regions for breeding and is consequently largely absent from the very humid bight between northern Ecuador and Panama, including the whole of Pacific Colombia (Murphy 1936, *Oceanic Birds of South America*).

Some of the largest known breeding colonies lie off northern Peru, notably at the Lobos Islands off dep. Lambayeque (6°–7°S), but regular breeding occurs as far south as the Guañape Islands (8°30′S) off dep. La Libertad. In this region, at the northern end of the cool upwelling zone of the Peru (Humboldt) Current, it usually outnumbers the Peruvian Booby *Sula variegata*, a characteristic species of the upwelling zone, which becomes dominant south of 8°S.

Following many years of observations along the south coast of Peru, I have accumulated numerous records of *nebouxii*, which indicate a regular annual post-breeding dispersal of juveniles far to the south of the normal breeding range. At Mollendo, dep. Arequipa (17°S), the birds usually

appear in late May or June, often mixed in flocks of the superabundant *variegata*, and are subsequently present until the following September or October. Numbers vary greatly from year to year, with sometimes no more than scattered singletons in a whole season, whereas in other years they may be seen in monospecific flocks of more than a dozen together. Exceptionally high counts were of 200+ in an hour off Mollendo, 28 June 1977, and 400–500 on and around islets at Morro Sama, dep. Tacna (18°S), 29 July 1984, almost within sight of the Peru–Chile border. This annual post-breeding dispersal of juveniles bears no apparent relation to the prevailing oceanic conditions and is a regular event involving varying numbers of birds.

In some years, when the coast is affected by the warm and nutrient-poor waters of *El Niño*, there is an influx of *nebouxii*, adults as well as immatures, into south Peruvian waters and in such anomalous years, such as 1983, the birds may be seen any time between January and May. During intense incursions of *El Niño* sporadic breeding has been reported from islands off central Peru, such as the Chinchas off dep. Ica (13°40′S) (Koepcke & Koepcke 1963, *Las Aves de Importancia Económica del Perú*), but not, insofar as is known, from farther south.

The presence of *Sula nebouxii* along the south coast of Peru would therefore appear to depend on two quite different circumstances: an annual post-breeding dispersal of juveniles irrespective of prevailing oceanic conditions, and occasional influxes of adults and immatures when the influences of *El Niño* are especially strong.

Casilla 62,
Mollendo,
Peru.

R. A. HUGHES

11 August 1991

We heard with regret that Mr Hughes died shortly after submitting this note—ED.

COURTSHIP FEEDING IN THE ORANGE-BREASTED FRUIT-EATER *PIPREOLA JUCUNDA*

The Andes of southern Colombia and Ecuador are the home of the Orange-breasted Fruit-eater *Pipreola jucunda*. Like other members of its genus, these birds are largely frugivorous, regularly taking a variety of fruits and occasionally feeding on insects. Little is known about the breeding of these montane forest cotingas, except that they generally live in pairs and both sexes attend the nest (Snow 1982, *The Cotingas*). Here I report what appears to be the only published account of courtship and breeding of *P. jucunda* in the wild.

On 31 July 1988, while watching a fruiting *Miconia* tree in subtropical montane forest at the La Planada reserve in southwestern Colombia, I noticed a female fruit-eater perching on a branch under the canopy of the tree. A few minutes later a male flew in and alighted on the same branch.